

What is claimed is:

1. An assembly, comprising:

a support structure;

5 a floor assembly including a plurality of elongated engagement members coupled to the support structure, the engagement members being spaced apart and mostly parallel, each engagement member including an engagement surface; and

a payload assembly including

a payload component positioned proximate to the floor assembly;

10 at least one payload support coupled to the payload component and engaged with at least some of the engagement members, the payload support being adapted to transfer loads from the payload component to the floor assembly and being moveable with the payload component relative to the floor assembly.

15 2. The assembly of Claim 1, wherein the payload support includes at least one of a structured payload floor panel, an intercostal, and a structural member, and wherein the payload support spans from the payload component to at least one attachment point to and over a central load carrying axis of one or more engagement members.

20 3. The assembly of Claim 1, wherein the payload assembly further includes at least one payload panel, the payload panel being coupled to or integral with at least one of the payload support and the payload component.

25 4. The assembly of Claim 1, wherein the payload assembly further includes at least one payload support coupled to at least one of the engagement surfaces of the floor assembly, the engagement surface being at least one of "flush" with and recessed below a lower surface of the payload panel.

5. The assembly of Claim 1, wherein the floor assembly further includes at least one floor panel coupled to at least one of the engagement surfaces, the engagement surface being at least one of “flush” with and recessed below a lower surface of the floor panel.

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6. The assembly of Claim 1, wherein the floor assembly further includes at least one floor panel coupled to at least one of the engagement surfaces and wherein the payload assembly further includes at least one payload panel coupled to at least one of the engagement surfaces, the payload panel being approximately co-planar with the floor panel, and wherein the engagement surface being at least one of flush with and recessed below respective lower surfaces of the floor panel and the payload panel.

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7. The assembly of Claim 1, wherein the payload component comprises at least one of a galley, a lavatory, a passenger seat, an attendant seat, a crew seat, a closet, a cargo container, a section partition, a fireplace, a shelf, and an article of furniture.

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8. The assembly of Claim 1, wherein the support structure comprises an airframe of an aircraft, and wherein the payload component comprises at least one of a galley, a lavatory, a passenger seat, an attendant seat, a crew seat, a closet, a cargo container, a section partition, a fireplace, a shelf, and an article of furniture.

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9. An aircraft, comprising:

a fuselage operatively coupled to an airframe;

a propulsion system operatively coupled to the airframe;

a floor assembly disposed within the fuselage and coupled to the airframe, the floor assembly including a plurality of elongated engagement members coupled to the

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airframe, the engagement members being spaced apart and approximately parallel, each engagement member including an engagement surface; and

a payload assembly including

a payload component positioned proximate the floor assembly;

5 at least one payload support coupled to the payload component and engaged with at least some of the engagement members, the payload support being adapted to transfer loads from the payload component to the floor assembly and being moveable with the payload component relative to the floor assembly.

10 10. The aircraft of Claim 9, wherein the payload support includes at least one of a structured payload floor panel, an intercostal, and a structural member, and wherein the payload support spans from the payload component to at least one attachment point to and over a central load carrying axis of one or more engagement members.

15 11. The aircraft of Claim 9, wherein the payload assembly further includes at least one payload panel, the payload panel being coupled to or integral with at least one of the payload support and the payload component.

20 12. The aircraft of Claim 9, wherein the payload assembly further includes at least one payload panel coupled to at least one of the engagement surfaces of the floor assembly, the engagement surface being at least one of "flush" with and recessed below a lower surface of the payload panel.

25 13. The aircraft of Claim 9, wherein the floor assembly further includes at least one floor panel coupled to at least one of the engagement surfaces, the engagement surface being at least one of "flush" with and recessed below a lower surface of the floor panel.

14. The aircraft of Claim 9, wherein the floor assembly further includes at least one floor panel coupled to at least one of the engagement surfaces and wherein the payload assembly further includes at least one payload panel coupled to at least one of the engagement surfaces, the payload panel being approximately co-planar with the floor panel, and wherein the engagement surface being at least one of flush with and recessed below
5 respective lower surfaces of the floor panel and the payload panel.

15. The aircraft of Claim 9, wherein the payload component comprises at least one of a galley, a lavatory, a passenger seat, an attendant seat, a crew seat, a closet, a cargo
10 container, a section partition, a fireplace, a shelf, and an article of furniture.

16. The aircraft of Claim 9, wherein the support structure comprises an airframe of an aircraft, and wherein the payload component comprises at least one of a galley, a lavatory, a passenger seat, an attendant seat, a crew seat, a closet, a cargo container, a section
15 partition, a fireplace, a shelf, and an article of furniture.

17. A method of securing a payload to a support structure, comprising:
coupling a plurality of elongated engagement members of a floor assembly to the
20 support structure, the engagement members being spaced apart and approximately parallel, each engagement member including an engagement surface; and

providing a payload assembly including a payload component and a payload support coupled to the floor assembly, the payload support being engaged with at least some of the engagement members of the floor assembly and being moveable with the payload component
25 relative to the engagement members; and

at least partially transmitting loads from the payload component through the payload support to at least some of the engagement members.

18. The method of Claim 17, wherein providing a payload assembly includes providing a payload assembly having an elongated payload support coupled to a lower surface of the payload component and being engaged at least partially over an upper surface of the engagement members.

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19. The method of Claim 17, wherein providing a payload assembly includes providing a payload assembly having a transverse payload support extending from the payload component to at least one attachment locations on one or more adjacent engagement members.

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20. The method of Claim 19, further comprising positioning at least one floor panel adjacent to and approximately co-planar with the at least one payload panel, and coupling the at least one floor panel to at least one of the engagement members.

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21. The method of Claim 17, wherein providing a payload assembly including a payload component includes providing a payload assembly having at least one of a galley, a lavatory, a passenger seat, an attendant seat, a crew seat, a closet, a cargo container, a section partition, a fireplace, a shelf, and an article of furniture.

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